

REMARKS

The specification has been amended to make editorial changes including those noted in the Official Action to place the application in condition for allowance at the time of the next Official Action.

A substitute Abstract of the Disclosure is provided on an accompanying separate sheet that is believed to address the abstract objection noted in the Official Action.

Claims 24-39 are pending in the application. Applicant would like to thank the Examiner for indicating that claims 24-31 and 33-39 are allowable.

In reliance thereon, claims 24 and 36 are amended to address the 35 USC 112, second paragraph rejections noted in the Official Action.

Claim 32 is rejected as anticipated by SHINOMURA 4,197,148.

Reconsideration and withdrawal of the rejection are respectfully requested because the reference does not disclose or suggest a gas supply means comprising a discharge chamber arranged after the at least one orientation device for feeding pressurized gas into the plastic film after orientation by stretching so that the fed gas diffuses into the cavitation bubbles that are formed in the plastic film during stretching as recited in claim 32 of the present application.

By way of example, page 4, line 23 through page 5, line 18 of the present application disclose that after the machine direction orientation device 12, the plastic film 5 is supplied to a discharge chamber 15. Pressurized gas, preferably air, is fed into the discharge chamber by a pump 16. Suitable material, such as calcium carbonate particles, is mixed into the plastic 5a of the plastic film 5 and due to the influence of the particles the joint surfaces of the plastic molecules and the mixed material are torn during orientation, and thus cavitation bubbles are formed. When the plastic film is subject to the pressure of pressurized gas after orientation, gas diffuses in the cavitation bubbles and causes overpressure in the bubbles. In discharge chamber 15 the pressurized gas can act on both sides of the plastic film 5 and thus gas bubbles are formed evenly in the plastic film 5.

The Official Action has indicated that column 9, line 50 through column 10, line 2 of SHINOMURA disclose an orientation device and a gas supply means. However, as noted in this passage of SHINOMURA, the gas supply means is an annular nozzle (air ring) 10 that is used to cool the molten mixture of SHINOMURA. SHINOMURA does not disclose or suggest a discharge chamber that feeds pressurized gas into the plastic film after orientation by stretching so that the fed gas diffuses into cavitation bubbles that are formed in the plastic film during stretching as recited in claim 32 of the present application.

Specifically, SHINOMURA does not teach or suggest stretching. At best, SHINOMURA teaches flattening of the solidified product by take-up rolls 8. These take-up rolls are downstream of air ring 10 such that SHINOMURA does not disclose or suggest a discharge chamber for feeding pressurized gas into the plastic film after orientation by stretching.

In addition, SHINOMURA is silent as to the formation of cavitation bubbles. Therefore, SHINOMURA could not disclose or suggest that the discharge chamber feeds pressurized gas into the plastic film so that the fed gas diffuses in cavitation bubbles that are formed in the plastic film during stretching.

As the reference does not disclose that which is recited, the anticipation rejection is not viable. Reconsideration and withdrawal of the rejection are respectfully requested.


In view of the present amendment and the foregoing remarks, it is believed that the present application has been placed in condition for allowance. Reconsideration and allowance are respectfully requested.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any

overpayment to Deposit Account No. 25-0120 for any additional
fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

YOUNG & THOMPSON



Liam McDowell, Reg. No. 44,231
745 South 23rd Street
Arlington, VA 22202
Telephone (703) 521-2297
Telefax (703) 685-0573
(703) 979-4709

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APPENDIX:

The Appendix includes the following item(s):

- ☐ - a terminal disclaimer
- ☐ - a 37 CFR 1.132 Declaration
- ☒ - a new or amended Abstract of the Disclosure
- ☐ - a Replacement Sheet for Figure of the drawings
- ☐ - a Substitute Specification and a marked-up copy of the
originally-filed specification
- ☐ - a verified English translation of foreign priority document

ABSTRACT OF THE DISCLOSURE

~~The invention relates to a~~ A method and an apparatus for making a plastic film, and to a plastic film wherein the method includes[[.]] ~~The invention comprises~~ extruding a film [[(5)]] from plastic material [[(5a)]] by an extruder [[(1)]] and orientating the film after extrusion. Material is mixed into the plastic [[(5a)]] so that when the plastic film [[(5)]] is stretched, cavitation bubbles are formed in the material particles mixed into the plastic [[(5a)]]. After orientation, gas is arranged to act on the plastic film under high pressure so that the gas diffuses in the cavitation bubbles and causes overpressure in them. Thus it is possible to make a thin foamed film [[(5)]] with a foaming degree of over 70%.